

**Amendments to the Claims:**

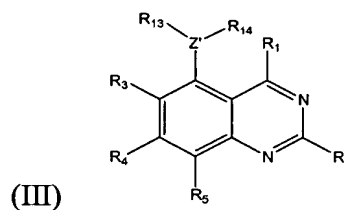
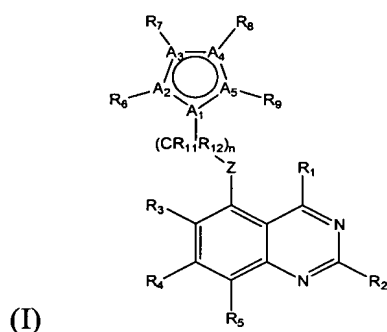
This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently amended) A method of modulating the function of a serine/threonine protein kinase with a quinazoline-based compound, comprising the step of contacting cells expressing said serine/threonine kinase with said compound, or a pharmaceutically acceptable salt thereof,

wherein said function of said serine/threonine protein kinase is related to a cancer selected from the group consisting of lung cancer, ovarian cancer, breast cancer, brain cancer, intra-axial brain cancer, colon cancer, prostate cancer, Kaposi's sarcoma, melanoma, and glioma; and

wherein said compound has the formula set forth in formula I or III:



wherein:

(a) Z is oxygen,  $\text{NX}_1$ , or sulfur, where  $\text{X}_1$  is selected from the group consisting of hydrogen, saturated or unsaturated alkyl, and five-membered or six-membered heteroaryl or six-membered aryl ring moieties;

(b) n is 0, 1, 2, 3, or 4;

(c)  $\text{A}_2$ ,  $\text{A}_3$ ,  $\text{A}_4$  and  $\text{A}_5$  are independently selected from the group consisting of carbon, nitrogen, oxygen, and sulfur,

provided that if any of  $\text{A}_2$ ,  $\text{A}_3$ ,  $\text{A}_4$  and  $\text{A}_5$  is nitrogen, oxygen, or sulfur, said  $\text{A}_2$ ,  $\text{A}_3$ ,  $\text{A}_4$  and  $\text{A}_5$  is not substituted with  $\text{R}_6$ ,  $\text{R}_7$ ,  $\text{R}_8$  or  $\text{R}_9$ ;

A<sub>1</sub> is nitrogen or carbon;

(d) R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub>, R<sub>6</sub>, R<sub>7</sub>, R<sub>8</sub> and R<sub>9</sub> are independently selected from the group consisting of:

(i) hydrogen;

(ii) saturated or unsaturated alkyl;

(iii) NX<sub>2</sub>X<sub>3</sub>, where X<sub>2</sub> and X<sub>3</sub> are independently selected from the group consisting of hydrogen, saturated or unsaturated alkyl, and five-membered or six-membered heteroaryl or six-membered aryl ring moieties;

(iv) halogen or trihalomethyl;

(v) a ketone of formula -CO-X<sub>4</sub>, where X<sub>4</sub> is selected from the group consisting of hydrogen, alkyl, and five-membered or six-membered heteroaryl or six-membered aryl ring moieties;

(vi) a carboxylic acid of formula -(X<sub>5</sub>)<sub>n5</sub>-COOH or ester of formula -(X<sub>6</sub>)<sub>n6</sub>-COOX<sub>7</sub>, where X<sub>5</sub>, X<sub>6</sub>, and X<sub>7</sub> are independently selected from the group consisting of alkyl and five-membered or six-membered heteroaryl or six-membered aryl ring moieties and where n<sub>5</sub> and n<sub>6</sub> are each independently 0 or 1;

(vii) an alcohol of formula -(X<sub>8</sub>)<sub>n8</sub>-OH or an alkoxy moiety of formula -(X<sub>8</sub>)<sub>n8</sub>-OX<sub>9</sub>, where X<sub>8</sub> and X<sub>9</sub> are independently selected from the group consisting of alkyl and five-membered or six-membered heteroaryl or six-membered aryl ring moieties and where n<sub>8</sub> is 0 or 1, and where said ring moieties are optionally substituted with one or more substituents selected from the group consisting of alkyl, halogen, trihalomethyl, carboxylate, and ester;

(viii) -NHCOX<sub>10</sub>, where X<sub>10</sub> is selected from the group consisting of alkyl, hydroxyl, and five-membered or six-membered heteroaryl or six-membered aryl ring moieties, wherein said ring moieties are optionally substituted with one or more substituents selected from the group consisting of alkyl, halogen, trihalomethyl, carboxylate, and ester;

(ix) -SO<sub>2</sub>NX<sub>11</sub>X<sub>12</sub>, where X<sub>11</sub> and X<sub>12</sub> are selected from the group consisting of hydrogen, alkyl, and five-membered or six-membered heteroaryl or six-membered aryl ring moieties; and

(x) a five-membered or six-membered heteroaryl or six-membered aryl ring moiety optionally substituted with one or more substituents selected from the group consisting of alkyl, halogen, trihalomethyl, carboxylate, and ester moieties; or

~~(e) R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub>, R<sub>6</sub>, R<sub>7</sub>, R<sub>8</sub> and R<sub>9</sub> are independently OX<sub>7</sub>, where X<sub>7</sub> is selected from the group consisting of hydrogen, saturated or unsaturated alkyl, and a six membered aryl or a five or six membered heteroaryl ring moiety;~~

(~~fe~~) any adjacent R<sub>3</sub>, R<sub>4</sub>, and R<sub>5</sub> or any adjacent R<sub>6</sub>, R<sub>7</sub>, R<sub>8</sub>, and R<sub>9</sub> are fused together to form a five-membered or six-membered heteroaryl or six-membered aryl ring moiety, wherein said five-membered or six-membered heteroaryl or six-membered aryl ring comprises two carbon atoms of said quinazoline-based compound to which R<sub>3</sub>, R<sub>4</sub>, and R<sub>5</sub> or R<sub>6</sub>, R<sub>7</sub>, R<sub>8</sub>, and R<sub>9</sub> are attached; and

(~~gf~~) R<sub>11</sub> and R<sub>12</sub> are independently selected from the group consisting of

(i) hydrogen;

(ii) saturated or unsaturated alkyl; and

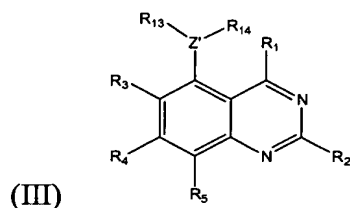
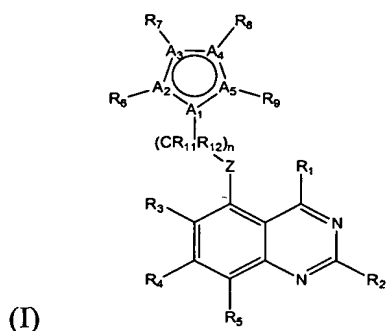
(~~hg~~) Z' is carbon or nitrogen and R<sub>13</sub> and R<sub>14</sub> taken together form a five-membered or six-membered heteroaryl ring with Z' as a ring member, ~~wherein said ring is optionally substituted with one, two or three alkyl, halogen, trihalomethyl, carboxylate, and ester moieties.~~

Claims 2 – 10 (Cancelled)

11. (Currently amended) ~~The method of claim 1, wherein said quinazoline-based compound has the formula set forth in structure I or III~~ A method of modulating the function of a serine/threonine protein kinase with a quinazoline-based compound, comprising the step of contacting cells expressing said serine/threonine kinase with said compound, or a pharmaceutically acceptable salt thereof,

wherein said function of said serine/threonine protein kinase is related to a cancer selected from the group consisting of lung cancer, ovarian cancer, breast cancer, brain cancer, intra-axial brain cancer, colon cancer, prostate cancer, Kaposi's sarcoma, melanoma, and glioma; and

wherein said compound has the formula set forth in formula I or III:



wherein:

(a) Z is oxygen,  $\text{NX}_1$ , or sulfur, where  $\text{X}_1$  is selected from the group consisting of hydrogen and saturated or unsaturated alkyl;

(b) n is 0, 1 or 2;

(c)  $\text{A}_2$ ,  $\text{A}_3$ ,  $\text{A}_4$  and  $\text{A}_5$  are independently selected from the group consisting of carbon, nitrogen, oxygen, and sulfur,

provided that if any of  $\text{A}_2$ ,  $\text{A}_3$ ,  $\text{A}_4$  and  $\text{A}_5$  is nitrogen, oxygen, or sulfur, said  $\text{A}_2$ ,  $\text{A}_3$ ,  $\text{A}_4$  and  $\text{A}_5$  is not substituted with  $\text{R}_6$ ,  $\text{R}_7$ ,  $\text{R}_8$  or  $\text{R}_9$ ;

$\text{A}_1$  is carbon or nitrogen;

(d)  $\text{R}_1$  and  $\text{R}_2$  are independently selected from the group consisting of:

(i) hydrogen;

(ii) saturated or unsaturated alkyl;

(iii)  $\text{NX}_2\text{X}_3$ , where  $\text{X}_2$  and  $\text{X}_3$  are independently selected from the group consisting of hydrogen and saturated or unsaturated alkyl;

(iv) halogen or trihalomethyl; and

(v) five-membered or six-membered heteroaryl ring moiety;

(e) R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub>, R<sub>6</sub>, R<sub>7</sub>, R<sub>8</sub> and R<sub>9</sub> are independently selected from the group consisting of:

- (i) hydrogen;
- (ii) saturated or unsaturated alkyl;
- (iii) NX<sub>4</sub>X<sub>5</sub>, where X<sub>4</sub> and X<sub>5</sub> are independently selected from the group consisting of hydrogen and saturated or unsaturated alkyl; and
- (iv) halogen or trihalomethyl;
- (v) -OX<sub>7</sub>, where X<sub>7</sub> is selected from the group consisting of hydrogen, saturated or unsaturated alkyl, and a six-membered aryl or five- or six-membered heteroaryl ring moiety;

(f) any adjacent R<sub>3</sub>, R<sub>4</sub>, and R<sub>5</sub> or any adjacent R<sub>6</sub>, R<sub>7</sub>, R<sub>8</sub> and R<sub>9</sub> are fused together to form a five-membered or six-membered heteroaryl or six-membered aryl ring moiety, wherein said five-membered or six-membered heteroaryl or six-membered aryl ring comprises two carbon atoms of said quinazoline-based compound to which R<sub>3</sub>, R<sub>4</sub>, and R<sub>5</sub> or R<sub>6</sub>, R<sub>7</sub>, R<sub>8</sub>, and R<sub>9</sub> are attached;

(g) R<sub>11</sub> and R<sub>12</sub> are independently selected from the group consisting of

- (i) hydrogen;
- (ii) saturated or unsaturated alkyl; and

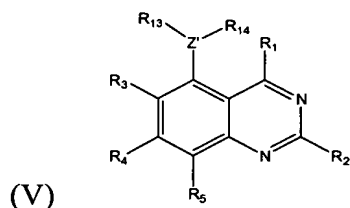
(h) Z' is nitrogen and R<sub>13</sub> and R<sub>14</sub> taken together form a five-membered or six-membered heteroaryl ring with Z' as a ring member, wherein said ring is optionally substituted with one, two, or three alkyl, halogen, trihalomethyl, carboxylate, and ester moieties.

12. (Currently amended) ~~The method of claim 1, wherein said quinazoline-based compound has the formula set forth in formula V~~ A method of modulating the function of a serine/threonine protein kinase with a quinazoline-based compound, comprising the step of contacting cells expressing said serine/threonine kinase with said compound, or a pharmaceutically acceptable salt thereof,

wherein said function of said serine/threonine protein kinase is related to a cancer selected from the group consisting of lung cancer, ovarian cancer, breast cancer, brain cancer,

intra-axial brain cancer, colon cancer, prostate cancer, Kaposi's sarcoma, melanoma, and glioma; and

wherein said compound has the formula set forth in formula V:



wherein:

- (a) R<sub>1</sub> and R<sub>2</sub> are independently selected from the group consisting of:
  - (i) hydrogen; and
  - (ii) NX<sub>2</sub>X<sub>3</sub>, where X<sub>2</sub> and X<sub>3</sub> are independently selected from the group consisting of hydrogen and saturated or unsaturated alkyl;
- (b) R<sub>3</sub>, R<sub>4</sub>, and R<sub>5</sub> are independently selected from the group consisting of:
  - (i) hydrogen;
  - (ii) saturated or unsaturated alkyl; and
  - (iii) NX<sub>2</sub>X<sub>3</sub>, where X<sub>2</sub> and X<sub>3</sub> are independently selected from the group consisting of hydrogen and saturated or unsaturated alkyl; and
- (c) Z' is nitrogen and R<sub>13</sub> and R<sub>14</sub> taken together form a five-membered heteroaryl ring.

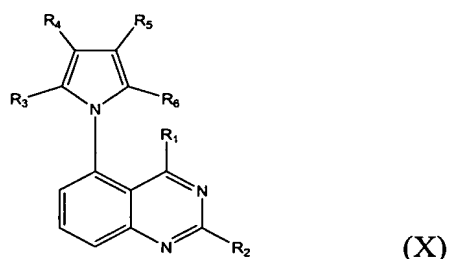
13. (Cancelled)

14. (Cancelled)

15. (Previously presented) A method of modulating the function of a serine/threonine protein kinase with a quinazoline-based compound, comprising the step of contacting cells expressing said serine/threonine kinase with said compound, or a pharmaceutically acceptable salt thereof,

wherein said function of said serine/threonine protein kinase is related to a cancer selected from the group consisting of lung cancer, ovarian cancer, breast cancer, brain cancer, intra-axial brain cancer, colon cancer, prostate cancer, Kaposi's sarcoma, melanoma, and glioma; and

wherein said quinazoline-based compound has a structure set forth in formula X:



wherein

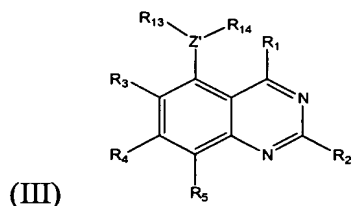
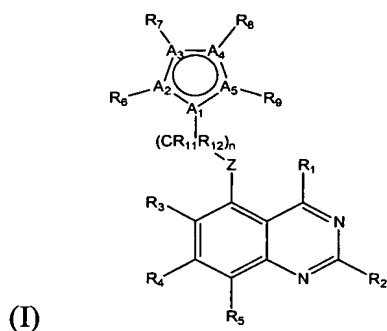
- (a)  $R_1$  and  $R_2$  are independently selected from the group consisting of hydrogen, and  $-NH_2$ , provided at least one of  $R_1$  and  $R_2$  is  $-NH_2$ ;
- (b)  $R_3$ ,  $R_4$ ,  $R_5$ , and  $R_6$  are independently selected from the group consisting of
  - (i) hydrogen;
  - (ii) saturated or unsaturated alkyl;
  - (iii)  $NX_4X_5$ , where  $X_4$  and  $X_5$  are independently selected from the group consisting of hydrogen and saturated or unsaturated alkyl;
  - (iv) halogen;
  - (v)  $C(X_6)_3$ , where  $X_6$  is selected from the group consisting of fluorine, chlorine, bromine, and iodine; and
  - (vi)  $OX_7$ , where  $X_7$  is selected from the group consisting of hydrogen, saturated or unsaturated alkyl, and six-membered aryl or five- or six-membered heteroaryl ring moiety.

16. (Cancelled)

17. (Previously presented) A method of treating an abnormal condition in an organism in need thereof, wherein said abnormal condition is a disease associated with an aberration in a signal transduction pathway characterized by an interaction between a

serine/threonine protein kinase and a natural binding partner, and wherein said disease is selected from the group consisting of lung cancer, ovarian cancer, breast cancer, brain cancer, intra-axial brain cancer, colon cancer, prostate cancer, Kaposi's sarcoma, melanoma, and glioma;

said method comprising the step of administering a quinazoline-based compound of formula I or III to said organism:



wherein:

(a) Z is oxygen,  $NX_1$ , or sulfur, where  $X_1$  is selected from the group consisting of hydrogen, saturated or unsaturated alkyl, and five-membered or six-membered heteroaryl or six-membered aryl ring moieties;

(b) n is 0, 1, 2, 3, or 4;

(c)  $A_2$ ,  $A_3$ ,  $A_4$  and  $A_5$  are independently selected from the group consisting of carbon, nitrogen, oxygen, and sulfur,

provided that if any of  $A_2$ ,  $A_3$ ,  $A_4$  and  $A_5$  is nitrogen, oxygen, or sulfur, said  $A_2$ ,  $A_3$ ,  $A_4$  and  $A_5$  is not substituted with  $R_6$ ,  $R_7$ ,  $R_8$  or  $R_9$ ;

$A_1$  is carbon or nitrogen;

(d)  $R_1$ ,  $R_2$ ,  $R_3$ ,  $R_4$ ,  $R_5$ ,  $R_6$ ,  $R_7$ ,  $R_8$  and  $R_9$  are independently selected from the group consisting of:

- (i) hydrogen;
- (ii) saturated or unsaturated alkyl;
- (iii)  $NX_2X_3$ , where  $X_2$  and  $X_3$  are independently selected from the group consisting of hydrogen, saturated or unsaturated alkyl, and five-membered or six-membered heteroaryl or six-membered aryl ring moieties;
- (iv) halogen or trihalomethyl;
- (v) a ketone of formula  $-CO-X_4$ , where  $X_4$  is selected from the group consisting of hydrogen, alkyl, and five-membered or six-membered heteroaryl or six-membered aryl ring moieties;
- (vi) a carboxylic acid of formula  $-(X_5)_{n5}-COOH$  or ester of formula  $-(X_6)_{n6}-COOX_7$ , where  $X_5$ ,  $X_6$ , and  $X_7$  are independently selected from the group consisting of alkyl and five-membered or six-membered heteroaryl or six-membered aryl ring moieties and where  $n5$  and  $n6$  are each independently 0 or 1;
- (vii) an alcohol of formula  $-(X_8)_{n8}-OH$  or an alkoxy moiety of formula  $-(X_8)_{n8}-OX_9$ , where  $X_8$  and  $X_9$  are independently selected from the group consisting of alkyl and five-membered or six-membered heteroaryl or six-membered aryl ring moieties and where  $n8$  is 0 or 1, and where said ring moieties are optionally substituted with one or more substituents selected from the group consisting of alkyl, halogen, trihalomethyl, carboxylate, and ester;
- (viii)  $-NHCOX_{10}$ , where  $X_{10}$  is selected from the group consisting of alkyl, hydroxyl, and five-membered or six-membered heteroaryl or six-membered aryl ring moieties, wherein said ring moieties are optionally substituted with one or more substituents selected from the group consisting of alkyl, halogen, trihalomethyl, carboxylate, and ester;
- (ix)  $-SO_2NX_{11}X_{12}$ , where  $X_{11}$  and  $X_{12}$  are selected from the group consisting of hydrogen, alkyl, and five-membered or six-membered heteroaryl or six-membered aryl ring moieties; and
- (x) a five-membered or six-membered heteroaryl or six-membered aryl ring moiety optionally substituted with one or more substituents selected from the group consisting of alkyl, halogen, trihalomethyl, carboxylate, and ester moieties;
- (e) any adjacent  $R_3$ ,  $R_4$ , and  $R_5$  or any adjacent  $R_6$ ,  $R_7$ ,  $R_8$ , and  $R_9$  are fused together to form a five-membered or six-membered heteroaryl or six-membered aryl ring moiety,

wherein said five-membered or six-membered heteroaryl or six-membered aryl ring comprises two carbon atoms of said quinazoline-based compound to which R<sub>3</sub>, R<sub>4</sub>, and R<sub>5</sub> or R<sub>6</sub>, R<sub>7</sub>, R<sub>8</sub>, and R<sub>9</sub> are attached;

(f) R<sub>11</sub> and R<sub>12</sub> are independently selected from the group consisting of

(i) hydrogen;

(ii) saturated or unsaturated alkyl; and

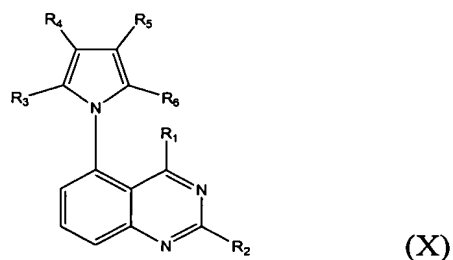
(g) Z' is carbon or nitrogen and R<sub>13</sub> and R<sub>14</sub> taken together form a five-membered or six-membered heteroaryl ring with Z' as a ring member.

18. (Cancelled)

19. (Cancelled)

20. (Previously presented) A method of treating an abnormal condition in an organism in need thereof, wherein said abnormal condition is a disease associated with an aberration in a signal transduction pathway characterized by an interaction between a serine/threonine protein kinase and a natural binding partner, and wherein said disease is selected from the group consisting of lung cancer, ovarian cancer, breast cancer, brain cancer, intra-axial brain cancer, colon cancer, prostate cancer, Kaposi's sarcoma, melanoma, and glioma;

said method comprising the step of administering a quinazoline-based compound of formula X:

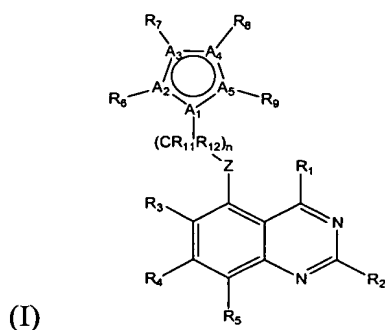


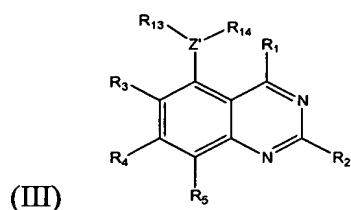
wherein

(a) R<sub>1</sub> and R<sub>2</sub> are independently selected from the group consisting of hydrogen and -NH<sub>2</sub>, provided at least one of R<sub>1</sub> and R<sub>2</sub> is -NH<sub>2</sub>;

- (b)  $R_3$ ,  $R_4$ ,  $R_5$ , and  $R_6$  are independently selected from the group consisting of
- (i) hydrogen;
  - (ii) saturated or unsaturated alkyl;
  - (iii)  $NX_4X_5$ , where  $X_4$  and  $X_5$  are independently selected from the group consisting of hydrogen and saturated or unsaturated alkyl;
  - (iv) halogen;
  - (v)  $C(X_6)_3$ , where  $X_6$  is selected from the group consisting of fluorine, chlorine, bromine, and iodine; and
  - (vi)  $OX_7$ , where  $X_7$  is selected from the group consisting of hydrogen, saturated or unsaturated alkyl, and a six-membered aryl or five- or six-membered heteroaryl ring moiety.

- 21. (Original) The method of claim 17, wherein said organism is a mammal.
- 22. (Cancelled)
- 23. (Cancelled)
- 24. (Cancelled)
- 25. (Previously presented) The method of claim 17, wherein said serine/threonine protein kinase is RAF.
- 26. (Currently amended) A quinazoline compound having the formula I or III:





wherein:

(i) Z is oxygen,  $NX_1$ , or sulfur, where  $X_1$  is selected from the group consisting of hydrogen, saturated or unsaturated alkyl, and five-membered or six-membered heteroaryl or six-membered aryl ring moieties;

(ii) n is 0, 1, 2, 3, or 4;

(iii)  $A_2$ ,  $A_3$ ,  $A_4$  and  $A_5$  are independently selected from the group consisting of carbon, nitrogen, oxygen, and sulfur,

provided that if any of  $A_2$ ,  $A_3$ ,  $A_4$  and  $A_5$  is nitrogen, oxygen, or sulfur, said  $A_2$ ,  $A_3$ ,  $A_4$  and  $A_5$  is not substituted with  $R_6$ ,  $R_7$ ,  $R_8$  or  $R_9$ ;

$A_1$  is carbon or nitrogen;

(iv)  $R_1$  and  $R_2$  are independently selected from the group consisting of:

(a) hydrogen;

(b) saturated or unsaturated alkyl;

(c)  $NX_2X_3$ , where  $X_2$  and  $X_3$  are independently selected from the group consisting of hydrogen and saturated or unsaturated alkyl;

(d) halogen or trihalomethyl; and

(e) five-membered or six-membered heteroaryl ring moiety;

(v)  $R_3$ ,  $R_4$ ,  $R_5$ ,  $R_6$ ,  $R_7$ ,  $R_8$  and  $R_9$  are independently selected from the group consisting of:

(a) hydrogen, provided that at least one of  $R_3$ ,  $R_4$ ,  $R_5$ ,  $R_6$ ,  $R_7$ ,  $R_8$ , and  $R_9$ , and  $R_{10}$  is a non-hydrogen moiety if  $R_2$  is  $-NH_2$ ;

(b) saturated or unsaturated alkyl, wherein said  $R_6$  is not methyl when  $R_2$  is  $-NH_2$  and when  $n=1$ ;

(c)  $NX_{13}X_{14}$ , where  $X_{13}$  and  $X_{14}$  are independently selected from the group consisting of hydrogen, saturated or unsaturated alkyl, and six-membered aryl or heteroaryl ring moieties;

(d) halogen or trihalomethyl, wherein said  $R_8$  is not chlorine or fluorine when  $R_2$  is  $-NH_2$  and when  $n=1$ ;

(e) a ketone of formula  $-CO-X_4$ , where  $X_4$  is selected from the group consisting of hydrogen, alkyl, and five-membered or six-membered heteroaryl or six-membered aryl ring moieties;

(f) a carboxylic acid of formula  $-(X_5)_{n5}-COOH$  or ester of formula  $-(X_6)_{n6}-COOX_7$ , where  $X_5$ ,  $X_6$ , and  $X_7$  are independently selected from the group consisting of alkyl and five-membered or six-membered heteroaryl or six-membered aryl ring moieties and where  $n5$  and  $n6$  are each independently 0 or 1;

(g) an alcohol of formula  $-(X_8)_{n8}-OH$  or an alkoxy moiety of formula  $-(X_8)_{n8}-OX_9$ , where  $X_8$  and  $X_9$  are independently selected from the group consisting of alkyl and five-membered or six-membered heteroaryl or six-membered aryl ring moieties and where  $n8$  is 0 or 1, and where said ring moieties are optionally substituted with one or more substituents selected from the group consisting of alkyl, halogen, trihalomethyl, carboxylate, and ester;

(h)  $-NHCOX_{10}$ , where  $X_{10}$  is selected from the group consisting of alkyl, hydroxyl, and five-membered or six-membered heteroaryl or six-membered aryl ring moieties, wherein said ring moieties are optionally substituted with one or more substituents selected from the group consisting of alkyl, halogen, trihalomethyl, carboxylate, and ester;

(i)  $-SO_2NX_{11}X_{12}$ , where  $X_{11}$  and  $X_{12}$  are selected from the group consisting of hydrogen, alkyl, and five-membered or six-membered heteroaryl or six-membered aryl ring moieties; and

(j) a five-membered or six-membered heteroaryl or six-membered aryl ring moiety optionally substituted with one or more substituents selected from the group consisting of alkyl, halogen, trihalomethyl, carboxylate, and ester moieties;

(vi) any adjacent  $R_3$ ,  $R_4$ , and  $R_5$  or any adjacent  $R_6$ ,  $R_7$ ,  $R_8$ , and  $R_9$  are fused together to form a five-membered or six-membered heteroaryl or six-membered aryl ring moiety, wherein said five-membered or six-membered heteroaryl or six-membered aryl ring comprises two carbon atoms of said quinazoline compound to which  $R_3$ ,  $R_4$ , and  $R_5$  or  $R_6$ ,  $R_7$ ,  $R_8$ , and  $R_9$  are attached;

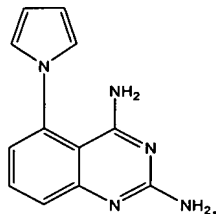
(vii)  $R_{11}$  and  $R_{12}$  are independently selected from the group consisting of

(i) hydrogen;

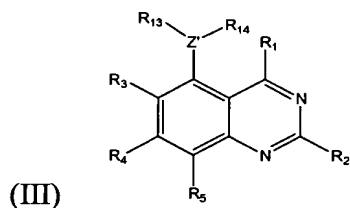
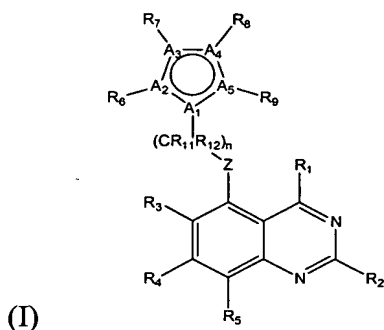
(ii) saturated or unsaturated alkyl; and

(viii) Z' is carbon or nitrogen and R<sub>13</sub> and R<sub>14</sub> taken together form a five-membered or six-membered heteroaryl ring with Z' as a ring member;

with the proviso that the compound of formula (III) is not



27. (Currently amended) A quinazoline compound having the formula I or III:



wherein:

(a) Z is oxygen, NX<sub>1</sub>, or sulfur, where X<sub>1</sub> is selected from the group consisting of hydrogen and saturated or unsaturated alkyl;

(b) n is 0, 1, or 2;

(c) A<sub>2</sub>, A<sub>3</sub>, A<sub>4</sub> and A<sub>5</sub> are independently selected from the group consisting of carbon, nitrogen, oxygen, and sulfur,

provided that if any of A<sub>2</sub>, A<sub>3</sub>, A<sub>4</sub> and A<sub>5</sub> is nitrogen, oxygen, or sulfur, said A<sub>2</sub>, A<sub>3</sub>, A<sub>4</sub> and A<sub>5</sub> is not substituted with R<sub>6</sub>, R<sub>7</sub>, R<sub>8</sub> or R<sub>9</sub>;

A<sub>1</sub> is carbon or nitrogen;

(d) R<sub>1</sub> and R<sub>2</sub> are independently selected from the group consisting of:

(i) hydrogen;

(ii) saturated or unsaturated alkyl;

(iii) NX<sub>2</sub>X<sub>3</sub>, where X<sub>2</sub> and X<sub>3</sub> are independently selected from the group consisting of hydrogen and saturated or unsaturated alkyl;

(iv) halogen or trihalomethyl; and

(v) five-membered or six-membered heteroaryl ring moiety;

(e) R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub>, R<sub>6</sub>, R<sub>7</sub>, R<sub>8</sub> and R<sub>9</sub> are independently selected from the group consisting of:

(i) hydrogen, provided that at least one of R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub>, R<sub>6</sub>, R<sub>7</sub>, R<sub>8</sub>, and R<sub>9</sub>, ~~and~~ R<sub>10</sub> is a non-hydrogen moiety if R<sub>2</sub> is -NH<sub>2</sub>;

(ii) saturated or unsaturated alkyl, wherein said R<sub>6</sub> is not methyl when R<sub>2</sub> is -NH<sub>2</sub> and when n=1;

(iii) NX<sub>4</sub>X<sub>5</sub>, where X<sub>4</sub> and X<sub>5</sub> are independently selected from the group consisting of hydrogen and saturated or unsaturated alkyl;

(iv) halogen or trihalomethyl, wherein said R<sub>8</sub> is not chlorine or fluorine when R<sub>2</sub> is -NH<sub>2</sub> and when n=1; and

(v) -OX<sub>7</sub>, where X<sub>7</sub> is selected from the group consisting of hydrogen, saturated or unsaturated alkyl, and six-membered aryl or five- or six-membered heteroaryl ring moiety;

(f) any adjacent R<sub>3</sub>, R<sub>4</sub>, and R<sub>5</sub> or any adjacent R<sub>6</sub>, R<sub>7</sub>, R<sub>8</sub> and R<sub>9</sub> are fused together to form a five-membered or six-membered heteroaryl or six-membered aryl ring moiety, wherein said five-membered or six-membered aryl or six-membered heteroaryl ring comprises two carbon atoms of said quinazoline compound to which R<sub>3</sub>, R<sub>4</sub>, and R<sub>5</sub> or R<sub>6</sub>, R<sub>7</sub>, R<sub>8</sub>, and R<sub>9</sub> are attached;

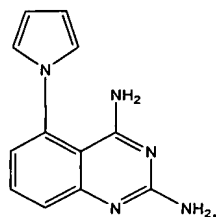
(g) R<sub>11</sub> and R<sub>12</sub> are independently selected from the group consisting of

(i) hydrogen; and

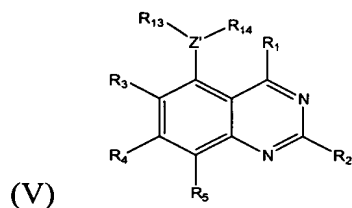
(ii) saturated or unsaturated alkyl; and

(h) Z' is nitrogen and R<sub>13</sub> and R<sub>14</sub> taken together form a five-membered or six-membered heteroaryl ring with Z' as a ring member, wherein said ring is optionally substituted with one, two, or three alkyl, halogen, trihalomethyl, carboxylate, and ester moieties;

with the proviso that the compound of formula (III) is not



28. (Previously presented) A quinazoline compound having the structure set forth in formula V:



wherein:

(a) R<sub>1</sub> and R<sub>2</sub> are independently selected from the group consisting of:

(i) hydrogen;

(ii) NX<sub>1</sub>X<sub>2</sub>, where X<sub>1</sub> and X<sub>2</sub> are independently selected from the group consisting of hydrogen and saturated or unsaturated alkyl; and

(iii) benzyl;

(b) R<sub>3</sub>, R<sub>4</sub>, and R<sub>5</sub> are independently selected from the group consisting of:

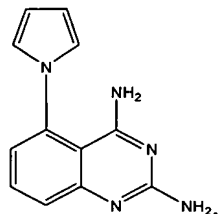
(i) hydrogen;

(ii) saturated or unsaturated alkyl; and

(iii) NX<sub>3</sub>X<sub>4</sub>, where X<sub>3</sub> and X<sub>4</sub> are independently selected from the group consisting of hydrogen and saturated or unsaturated alkyl;

(c) Z' is nitrogen and R<sub>13</sub> and R<sub>14</sub> taken together form a five-membered heteroaryl ring;

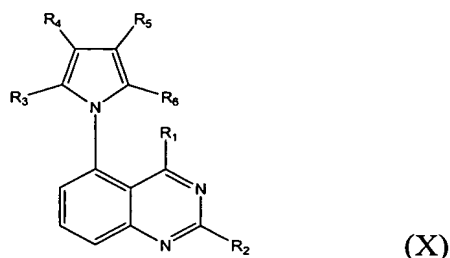
with the proviso that the compound of formula (V) is not



29. (Cancelled)

30. (Cancelled)

31. (Previously presented) A quinazoline compound having a structure set forth in formula X:



wherein

(a) R<sub>1</sub> and R<sub>2</sub> are independently selected from the group consisting of hydrogen and -NH<sub>2</sub>, provided at least one of R<sub>1</sub> and R<sub>2</sub> is -NH<sub>2</sub>;

(b) R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub>, and R<sub>6</sub> are independently selected from the group consisting of

(i) hydrogen;

(ii) saturated or unsaturated alkyl;

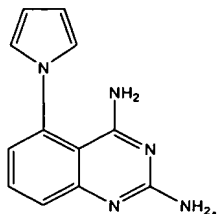
(iii) NX<sub>4</sub>X<sub>5</sub>, where X<sub>4</sub> and X<sub>5</sub> are independently selected from the group consisting of hydrogen and saturated or unsaturated alkyl;

(iv) halogen;

(v) C(X<sub>6</sub>)<sub>3</sub>, where X<sub>6</sub> is selected from the group consisting of fluorine, chlorine, bromine, and iodine; and

(vi) OX<sub>7</sub>, where X<sub>7</sub> is selected from the group consisting of hydrogen, saturated or unsaturated alkyl, and a six-membered aryl or five- or six-membered heteroaryl ring moiety;

with the proviso that the compound of formula (X) is not

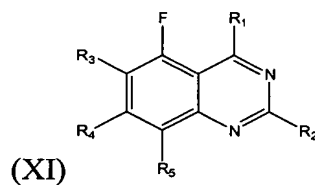


32. (Cancelled)

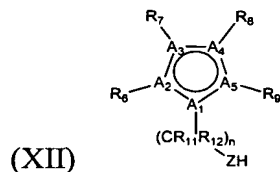
33. (Previously presented) A pharmaceutical composition comprising a quinazoline compound of any one of claims 26, 27, or 31 or salt thereof, and a physiologically acceptable carrier or diluent.

34. (Currently amended) A method for synthesizing a compound of claim 26, comprising the steps of:

(a) reacting a first reactant with a second reactant to yield said compound, wherein said first reactant has a structure of formula XI:



and wherein said second reactant has a structure of formula (XII):



wherein,

(a) Z is oxygen or sulfur;

(b) n is 0, 1, 2, 3, or 4;

(c) A<sub>2</sub>, A<sub>3</sub>, A<sub>4</sub>, and A<sub>5</sub> are independently selected from the group consisting of carbon, nitrogen, oxygen, and sulfur,

provided that if any of A<sub>2</sub>, A<sub>3</sub>, A<sub>4</sub> and A<sub>5</sub> is nitrogen, oxygen, or sulfur, said A<sub>2</sub>, A<sub>3</sub>, A<sub>4</sub> and A<sub>5</sub> is not substituted with R<sub>6</sub>, R<sub>7</sub>, R<sub>8</sub> or R<sub>9</sub>;

A<sub>1</sub> is carbon or nitrogen;

(d) R<sub>1</sub> and R<sub>2</sub> are independently selected from the group consisting of:

(i) hydrogen;

(ii) saturated or unsaturated alkyl;

(iii) NX<sub>2</sub>X<sub>3</sub>, where X<sub>2</sub> and X<sub>3</sub> are independently selected from the group consisting of hydrogen and saturated or unsaturated alkyl;

(iv) halogen or trihalomethyl; and

(v) five-membered or six-membered heteroaryl ring moiety;

(e) R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub>, R<sub>6</sub>, R<sub>7</sub>, R<sub>8</sub>, and R<sub>9</sub> are independently selected from the group consisting of:

(i) hydrogen, provided that at least one of R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub>, R<sub>6</sub>, R<sub>7</sub>, R<sub>8</sub>, and R<sub>9</sub>, ~~and R<sub>10</sub>~~ is a non-hydrogen moiety if R<sub>2</sub> is -NH<sub>2</sub>;

(ii) saturated or unsaturated alkyl, wherein said R<sub>6</sub> is not methyl when R<sub>2</sub> is -NH<sub>2</sub> and when n=1;

(iii) NX<sub>13</sub>X<sub>14</sub>, where X<sub>13</sub> and X<sub>14</sub> are independently selected from the group consisting of hydrogen, saturated or unsaturated alkyl, and six-membered aryl or heteroaryl ring moieties;

(iv) halogen or trihalomethyl, wherein said R<sub>8</sub> is not chlorine or fluorine when R<sub>2</sub> is -NH<sub>2</sub> and when n=1;

(v) a ketone of formula -CO-X<sub>4</sub>, where X<sub>4</sub> is selected from the group consisting of hydrogen, alkyl, and five-membered or six-membered heteroaryl or six-membered aryl ring moieties;

(vi) a carboxylic acid of formula -(X<sub>5</sub>)<sub>n5</sub>-COOH or ester of formula -(X<sub>6</sub>)<sub>n6</sub>-COOX<sub>7</sub>, where X<sub>5</sub>, X<sub>6</sub>, and X<sub>7</sub> and are independently selected from the group

consisting of alkyl and five-membered or six-membered heteroaryl or six-membered aryl ring moieties and where  $n_5$  and  $n_6$  are 0 or 1;

(vii) an alcohol of formula  $-(X_8)_{n_8}-OH$  or an alkoxy moiety of formula  $-(X_8)_{n_8}-OX_9$ , where  $X_8$  and  $X_9$  are independently selected from the group consisting of alkyl and five-membered or six-membered heteroaryl or six-membered aryl ring moieties and where  $n_8$  is 0 or 1, and where said ring moieties are optionally substituted with one or more substituents selected from the group consisting of alkyl, halogen, trihalomethyl, carboxylate, and ester;

(viii)  $-NHCOX_{10}$ , where  $X_{10}$  is selected from the group consisting of alkyl, hydroxyl, and five-membered or six-membered heteroaryl or six-membered aryl ring moieties, wherein said ring moieties are optionally substituted with one or more substituents selected from the group consisting of alkyl, halogen, trihalomethyl, carboxylate, and ester;

(ix)  $-SO_2NX_{11}X_{12}$ , where  $X_{11}$  and  $X_{12}$  are selected from the group consisting of hydrogen, alkyl, and five-membered or six-membered heteroaryl or six-membered aryl ring moieties; and

(x) a five-membered or six-membered heteroaryl or six-membered aryl ring moiety optionally substituted with one or more substituents selected from the group consisting of alkyl, halogen, trihalomethyl, carboxylate, and ester moieties;

(f) any adjacent  $R_3$ ,  $R_4$ , and  $R_5$  or any adjacent  $R_6$ ,  $R_7$ ,  $R_8$ , and  $R_9$  are fused together to form a five-membered or six-membered heteroaryl or six-membered aryl ring moiety wherein said five-membered or six-membered heteroaryl or six-membered aryl ring comprises two carbon atoms of the ring to which  $R_3$ ,  $R_4$ , and  $R_5$  or  $R_6$ ,  $R_7$ ,  $R_8$ , and  $R_9$  are attached;

(g)  $R_{11}$  and  $R_{12}$  are independently selected from the group consisting of

(i) hydrogen; and

(ii) saturated or unsaturated alkyl; and

(b) collecting a precipitate comprising said compound.

35. (Cancelled)

36. (Cancelled)

37. (Previously presented) The method of claim 34, wherein said first reactant and said second reactant are mixed in one or more solvents selected from the group consisting of dimethyl sulfoxide, potassium tert-butoxide, and sodium hydride.

38. (Original) The method of claim 34, wherein said ZH moiety is isothiocyanate.

39. (Original) The method of claim 38, wherein said first reactant and said second reactant are mixed in dichloromethane.

40. (Cancelled)

41. (Cancelled)